

THE GENERAL ENGINE AND BOILER CO.,  
8, UNION COURT, OLD BROAD STREET,  
LONDON.

---

*ECONOMICAL STEAM POWER GUARANTEED.*

---

**COMPOUND CONDENSING ENGINES.**—Compound Engines have of late years been largely employed. When properly designed and thoroughly well made they work with great economy. But a bad Compound Engine may be much more wasteful than an ordinary Engine. We undertake the erection of either Vertical or Horizontal Compound Engines of any power, under a strict guarantee as to fuel consumption.

**WINDING ENGINES.**—Our Portable Winding Engines are very convenient for light winding and sinking, as the whole arrangement can be moved to another site.

For larger Mines and Collieries our Vertical or Horizontal Pumping Engines are recommended.

**BLOWING ENGINES.**—Our Compound Blowing Engines are guaranteed to burn about half the usual quantity of fuel. As Ventilating Engines, our Patent Horizontal Engines are admirably adapted, and are coupled direct to the Fan Shaft. We have also a special type of Air-Compressing Engine.

**ROLLING MILL ENGINES.**—Reversing Engines are generally displacing the old and dangerous Engines with Fly Wheels and Clutches. Plans and Estimates for Engines of any power on application.

**LAUNCH AND YACHT ENGINES.**—Light High-Pressure Engines, with or without Boilers, Propellers, &c., for either Paddle or Screw Yachts, Compound Engines, Special Engines for Racing Launches, and Engines and Boilers for Barges or Tug Boats, &c.

**"EXAMPLES OF ENGINES, BOILERS, AND STEAM MACHINERY."**—Our complete Catalogue and Price List, quarto size. Post free, 1s.

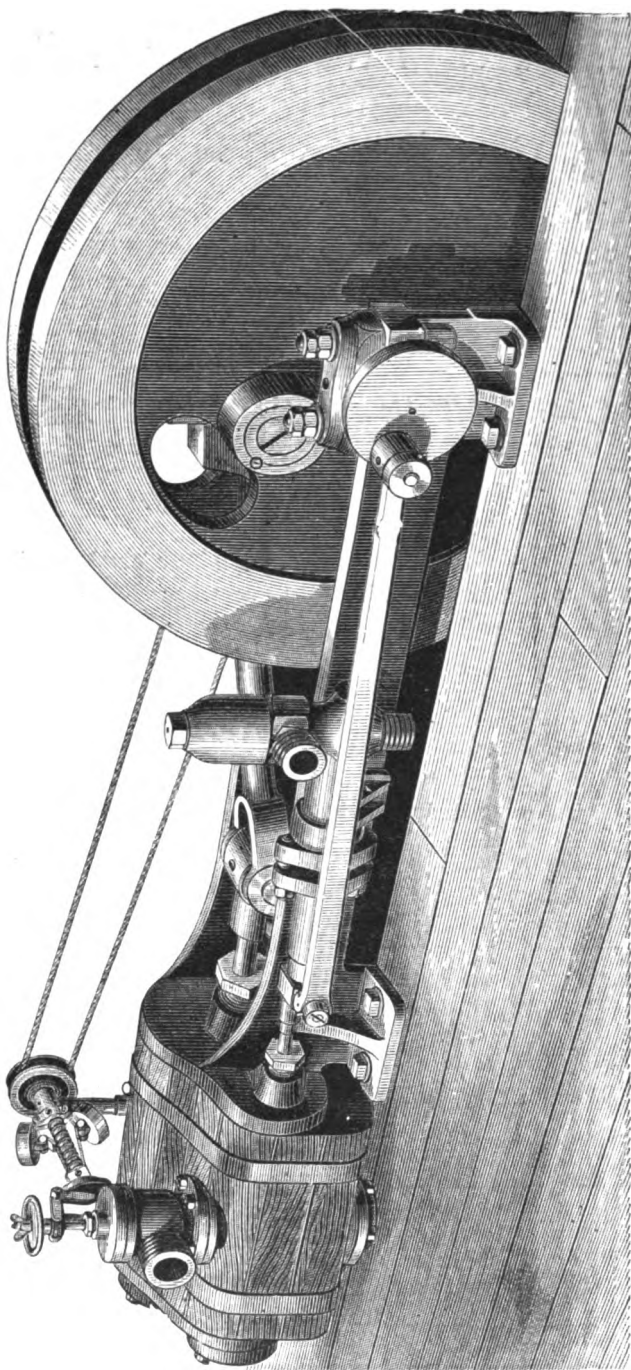
**"USEFUL INFORMATION ON STEAM POWER."**—Intended as a Guide to the choice of a suitable Steam Engine, and the attainment of Economical Steam Power. By Henry Northcott, C.E. 5th edition. Post free, 1s.

---

THE GENERAL ENGINE AND BOILER CO.,  
8, UNION COURT, OLD BROAD STREET, LONDON.

2 X 2

## PATENT HORIZONTAL "EXPRESS" ENGINES.



These Engines are carefully designed, thoroughly well made, and work with about *one-half the usual consumption of fuel.* The Engine is perfectly balanced by the employment of two counterweighted Fly-Wheels, the Valve is an equilibrium Slide Valve, the Framing is arranged to withstand the thrust and pull of the Piston in the direct line of strain, and the Engine is self-contained, requiring but very slight foundation.

N.B.—THE INDICATED HORSE-POWER given is that due to a Steam pressure of 50 lb. per inch. With a higher pressure and speed a much greater power will be exerted.

"Such novelties as are introduced into these engines will, we think, commend themselves to the judgment of competent engineers." — *The Engineer.*

"These engines are certainly calculated to work with less coal than the rough and heavy engines ordinarily employed for

small powers." — *Mining Journal.*

"It would be difficult to make a lighter or more rigid framing for an engine, and in appearance also it is very satisfactory." — *Iron.*

"Very favourable examples of this class of engine." — *Colliery Guardian.*

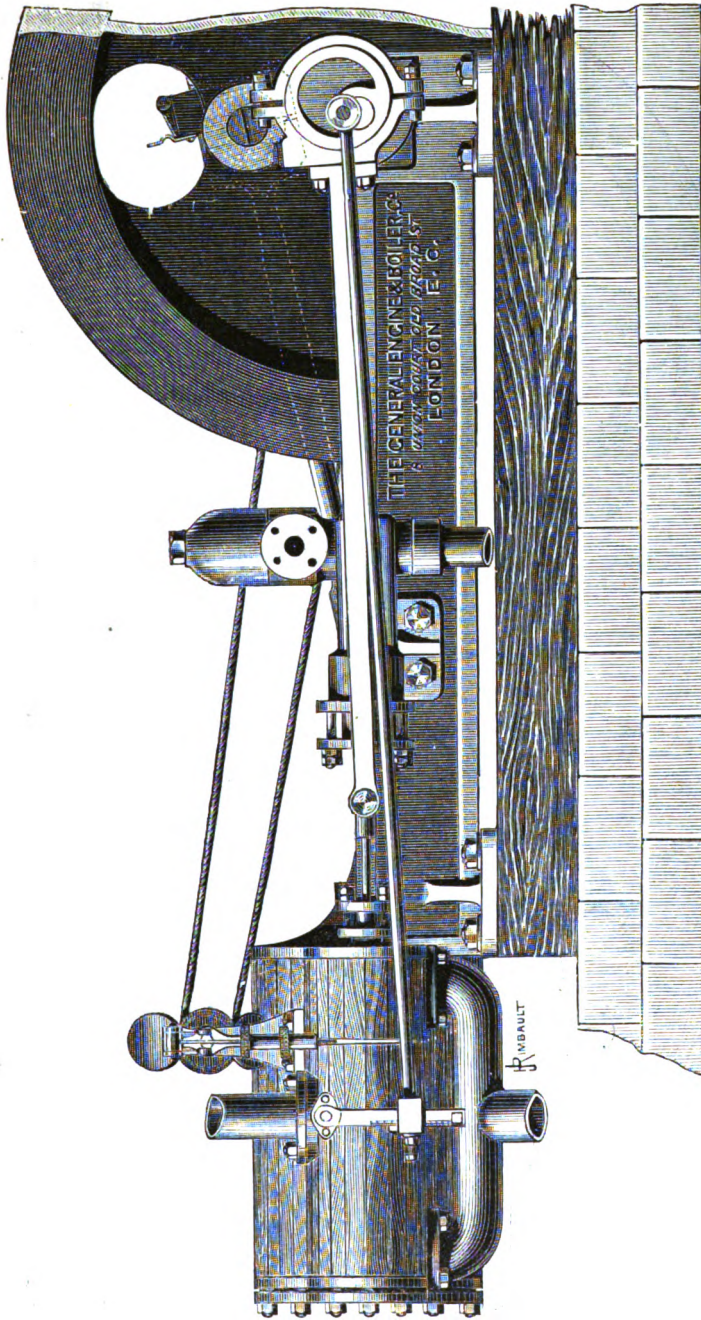
Nominal Horse-power	..	2	3	5	7	9	12	16	20	25	30
Indicated Horse-power	..	2½	5	8½	13½	19	25	33	40	48	56
Price of Engine	..	£	..	52	60	74	90	124	145	170	190
Governor and Stop Valve	..	£	3	4	5	6	8	10	12	14	15
Feed Pump	..	£	2	3	4	5	6	8	10	12	14

*Estimates for any kind of Engine and Boiler on application.*

THE GENERAL ENGINE AND BOILER CO.,  
8, UNION COURT, OLD BROAD STREET, LONDON.

## PATENT HORIZONTAL EXPANSIVE ENGINES.

"A rare combination of strength, lightness, and durability."—*Mining World*.  
 "Calculated to work with great economy of fuel."—*Colliery Guardian*.  
 "A very superior type of this class of engine."—*Iron Trade Exchange*.



These Engines are fitted with patent automatic variable expansion gear, under the control of the governor. The cylinders are steam jacketed, and neatly cased to prevent radiation of heat. The workmanship and materials are of the highest class.  
 When working fully up to the nominal power, and with a patent Feed-Water Heater, these Engines are as economical as most condensing Engines.

Nominal Horse-power	8	10	12	16	20	25	30	40	50	60	75	100
Indicated ditto, according to the rate of expansion, from (Steam pressure 60 lb.)	13	16	20	25	32	40	50	65	80	90	110	150
PRICE, complete with governor, feed pump, two fly wheels, &c.	20	25	32	38	50	65	80	100	130	150	170	220

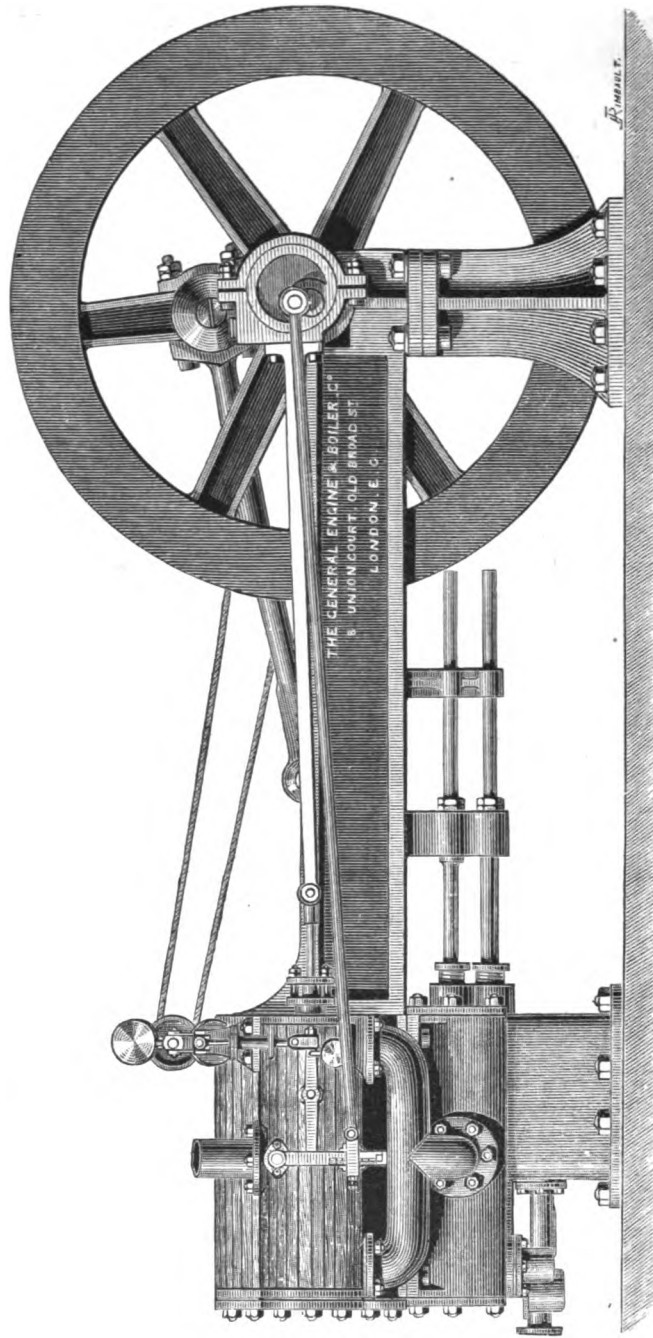
ESTIMATES FOR ANY KIND OF ENGINE AND BOILER ON APPLICATION.

THE GENERAL ENGINE AND BOILER CO.,  
 8, UNION COURT, OLD BROAD STREET, LONDON.

## PATENT HORIZONTAL CONDENSING ENGINES.

These Engines use high-pressure steam considerably expanded and condensed, and run at the moderately high speed of about 400 feet per minute. The Cylinders are steam jacketted and lagged. The main valve and the expansion valve are both equilibrium slide valves, and each Engine is fitted with Northcott's Patent Automatic Variable Expansion Gear, whereby the degree of expansion and consequently the quantity of steam used are adjusted in accordance with the varying loads upon the Engine.

The consumption of fuel is from 2 to 2½ lb. per horse-power per hour when the Engine is working fully up to its nominal power. If both Engine and Boiler are supplied by us, an *economical performance will be guaranteed.*



"The arrangement of the crank is very neat and mechanically scientific."—*Practical Magazine.*

"With this disposition of parts the Engine is rendered very compact, and every part of it is accessible and exposed to view."—*Chambers of Commerce Chronicle.*

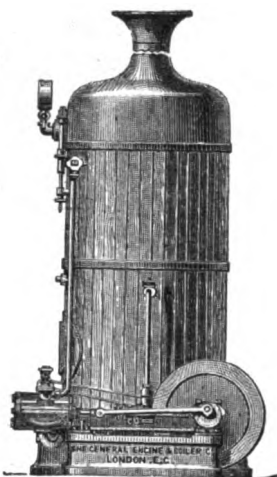
"It has been found that the consumption of fuel an hour is, per horse-power, from 2 to 2½ lb. when using high-pressure steam, and working fully up to their nominal power—a degree of economy but seldom exceeded by the best compound engines."—*Mining World.*

THE GENERAL ENGINE AND BOILER CO.,  
8, UNION COURT, OLD BROAD STREET, LONDON.

## COMBINED ENGINES AND BOILERS.

These Engines are the Patent "Express" Engines shown on page 340. The Vertical Boilers are of extra quality, and proved to double the working pressure before delivery. The combined arrangement is complete, and ready to be set to work on delivery.

The Price includes Engine, with feed pump, stop valve, governor, &c. ; Vertical Boiler and all usual fittings ; bed plate, with draught regulator, &c., and all connecting pipes.



Nominal Horse-power .. .. .	2	3	5	7	9	12
Indicated Horse-power, with 50 lb. steam .. .. .	2½	5	8½	13½	19	25
Price, complete .. .. .	£80	£100	£120	£145	£180	£220

## NORTHCOTT'S PATENT FEED-WATER HEATER

Saves 15 per cent. Fuel, reduces the wear and tear of the Boiler, and lessens priming. It is simple, inexpensive, easily applied, and its cost is repaid in a few months.

Numbered Size .. .. .	2	3	4	5	6	7	8
For Engines of Horse-power .. .. .	5	10	15	20	30	40	50
Price of Heater .. .. .	£4	£6	£8	£10	£14	£18	£22

## PATENT VALVELESS ENGINES.

Although these Engines are free from all kinds of complications, they work expansively and with greater economy than any Engine of the same price made. Their extreme simplicity and non-liability to get out of order render them particularly suitable for export. About 1000 Engines are in use, varying in size from 1 to 200 horse-power.

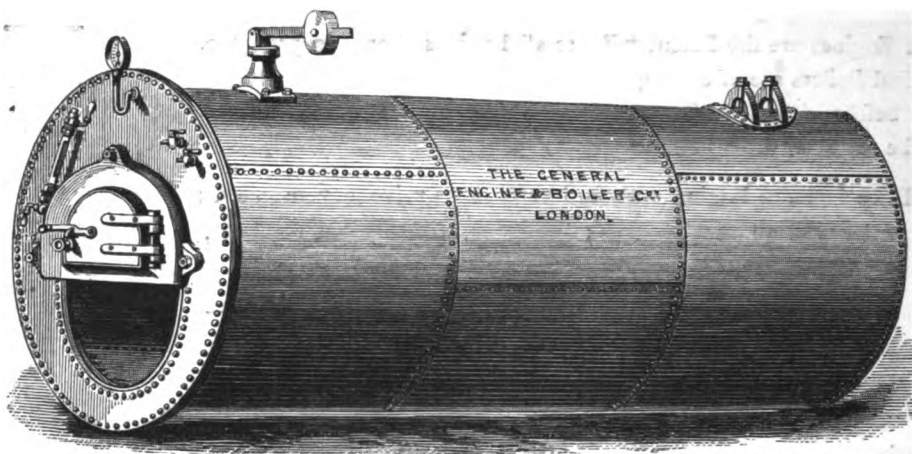
HORIZONTAL ENGINES.											VERTICAL ENGINES.							
Nominal Horse-power ..	1½	2½	4	6	8	10	12	15	20	25	1½	2½	4	6	8	10	12	15
Diameter of Cylinder ..	3½	4½	6	8	9	10	11	12	14	16	3½	4½	6	8	9	10	11	12
Engine .. .. .	£16	25	34	50	63	76	88	110	125	166	14	22	30	44	55	66	80	95
Governor, extra .. .. .	£6	7	8	9	9	10	11	12	17	19	6	7	8	9	9	10	11	12
Feed Pump, extra .. .. .	£4	5	5	7	8	10	11	12	12	15	4	5	5	7	8	10	11	12

N.B.—The indicated Horse-power is from two to three times the nominal, according to the pressure of steam used.

THE GENERAL ENGINE AND BOILER CO.,  
8, UNION COURT, OLD BROAD STREET, LONDON.



## CORNISH BOILERS.



The Price includes Boiler, with manhole and mudhole covers, fire bars, bearers and dead plate, fire door and frame, anti-priming pipe or steam dome, safety valve, water gauge, try cocks, pressure gauge, &c. Each Boiler is tested by hydraulic pressure before delivery.

Nominal Horse-power	4	6	8	10	12	16	20	25	30	40
Price, with fittings ..	£60	£80	£100	£115	£135	£170	£205	£250	£300	£400

For particulars of Cornish Boilers suitable for 70 lb. pressure, and with conical circulating tubes in the flues, see The General Engine and Boiler Company's Catalogue.

## VERTICAL BOILERS WITH CROSS TUBES.

The price includes Boiler, with cross tubes in flue, fire door, fire bars, safety valve, pressure gauge, water gauge, try cock, blow-off tube, check valve, &c.

Nominal Horse-power	1	2	3	4	5	6	8	10	12	14
Price .. .. .	£	£	£	£	£	£	£	£	£	£

For full particulars of these Boilers, and also of a very superior class of Vertical Boiler for highest pressures, see pages 27 and 28 of Complete Catalogue.

## MULTITUBULAR BOILERS.

Vertical, Multitubular, and Horizontal Multitubular Boilers of ordinary construction, and also of our A 1 class, are fully described and illustrated on pages 25, 26, 31, and 32 of Complete Catalogue. Prices on application.

## NORTHCOTT'S PATENT HIGH-PRESSURE BOILER,

Designed especially for pressures of from 60 to 200 lb. per inch, combines the simplicity of the Cornish and the compactness of the Multitubular Boiler, with a greater degree of safety and a higher evaporative efficiency than is possessed by any steam generator yet introduced.

Nominal Horse-power	6	8	10	12	16	20	25	30	40	50	60	75	100
Price .. .. .	£90	£110	£130	£150	£190	£225	£270	£315	£410	£505	£600	£750	£1000

The General Engine and Boiler Company, under suitable conditions, guarantee the highest practicable evaporative efficiency.

THE GENERAL ENGINE AND BOILER CO.,  
8, UNION COURT, OLD BROAD STREET, LONDON.